

## Overview

This basic installation guide shows some of our recommended procedures for a step by step, start to finish procedure for installing your whole house water conditioner.

**This basic guide is for your reference only, and should be used as such. Always follow your local & State Health, Safety & Plumbing Codes, when installing any water treatment equipment.**

Your new system from the Ohio Pure Water Company also comes with a Fleck Service manual, which, along with these instructions, will help explain the basic details required for successful installation and operation of your system.

Please refer to these instructions and the Fleck service manual supplied with your system during installation and programming.

All steps provided herein are for typical installations only. If you require additional plumbing to install your system, simply contact a friend, relative or plumber who is knowledgeable in residential plumbing or have a local plumbing company help you install, or will install the system for you.

We also recommend that you take a few minutes and look at the Fleck service/parts manual for your particular model valve, to help you better understand your new system. **Take your time and carefully read all instructions.**

Get all of your plumbing parts together before you start, and have an assistant available to help you, if possible. Typical installation should take no more than a few hours.

If you are going to turn the water off to your house while installing the system, we recommend that you turn off the electricity to your electric water heater during this installation. After the system is installed with water running through it, turn on a single cold-water faucet, and let it run, which will help expel any trapped air from your plumbing lines, then turn the electricity back on to your water heater.

Our systems can safely handle a pressure range of 35-95 psi. However, as with most residential plumbing and for best operation causing the least wear on critical parts, we recommend an operating range of 40-65psi. All you have to do is basically plumb in the system, plug it in and set the current time of day!

Again, Always follow your local & State Health, Safety & Plumbing Codes, when installing any water treatment equipment.

## **Pre Installation for an OPWC Fleck Control Valve Unit**

Your system should be located in a protected, dry, level and non-freezing area.

We recommend draining the regenerate water, to a 1½" drain if possible, (similar to a washing machine type drain), or a sump pit, or to a drain outside the house such as a downspout gutter drain. This drain should be no farther than 15 feet from where the new system is installed.

You will need to purchase the flexible ½" I.D. (Inside Diameter), semi-rigid plastic tubing from a local hardware or building supply store. This flexible drain tubing will run from your Fleck valve, to your house drain.

**Your Drain Line can also be routed overhead, from your Fleck valve, in order to gain access to your house drain, as the water coming out of the drain line is under pressure from your house water supply.**

**If you decide to run the drain line overhead, we recommend that you use rigid PVC Pipe, and not flexible drain line material.**

If you need to run the valve drain line over 15 feet, we also recommend increasing the drain line size coming from your Fleck valve to ¾ - 1".

You will need a standard 3-prong, 120V, grounded outlet that is not controlled by an on/off switch. Our Fleck valves have a 5' power cord, but you can use an extension cord if an outlet is not nearby. Please follow any local building/safety codes if you decide to use an extension cord.

**IMPORTANT NOTE !** IF you have a water softener and decide to set the brine tank in your garage and the softener unit inside the house or basement, remember that the brine water inside the brine tank will not freeze readily, but the fresh water in the small 3/8" plastic water line running from the Fleck valve to the brine tank will. Make certain the garage is warm enough to prevent this 3/8" line from freezing!

Make a list of all the plumbing fittings you will need to completely install the system to make it ready for operation. Assemble all tools needed to install the system, and start your installation!

**NOTICE:**

If you are using our Standard “Hi Capacity” or “SST60” Softening Resin, and your Resin Tank is 12” in Diameter or less, gravel is not required in the bottom of your resin tank.

**We only supply gravel to backwashing type filter systems (Carbon, Sediment etc)... and Softeners using our “Fine Mesh” Resin, unless the resin tank is over 12” in diameter.**

**If you have a unit that requires gravel, please check the inside of the resin tank first, as we sometimes ship the gravel already inside the tank.**

If the gravel is shipped separately, plz add about 12” of water to the inside of the resin tank first. Then, as you hold your thumb on top of the riser tube to help keep the bottom of the tube firmly on the bottom of the tank, slowly add the gravel to the tank. The gravel will slowly settle down through the water, around the basket on the bottom of the riser tube.

Once the gravel has been added to the tank, then add the media/resin on top of the gravel.

We recommend using a mask to cover your nose and mouth while loading media, especially with Carbon, that will have some dust.

## Loading the Resin

Loading your whole house conditioner is simple, and interesting! Please follow the step by step loading instructions below, which will take about 15 – 20 minutes.

Look inside your resin tank, (the tank that is tall and slender with a 2 ½” hole in the top of it), and there will be a 1” plastic tube inside. This is the “Riser Tube” that delivers conditioned water into your home through the Fleck valve.

**The tube should be even with the top opening of the resin tank...**and have a plastic plug on the top end of it, so nothing can fall down inside the tube while you are loading the resin. (See Fig. 1)



**Figure 1**

If there is not a plastic plug in the top of the riser tube, simply put a piece of tape over it, to keep the resin from falling inside the tube!

Next, stand back and look at your resin tank, and make sure it is standing straight up and not tilted to one side. Sometimes during shipment, the black “Boot” on the bottom of the tank will get knocked out of alignment and you will need to straighten it out before filling the tank with resin.

If your tank is a bit tilted, simply pick the tank up 2 - 3 inches off the floor and drop it gently but firmly down, favoring the side of the boot that needs to be adjusted to make the tank stand straight again. The boot will move and be easily adjusted, so the resin tank will stand up straight.

Put the resin funnel we supply with every complete order, in the top of the resin tank with the riser tube still inside the resin tank. Make sure the top of the tube has a plastic plug or some tape over the end of it to keep resin out!

As you put the gravel inside the resin tank.... be sure to keep a finger on top of the riser tube holding it down and in place, as the force of the gravel dropping down inside the tank, can sometimes get under the plastic riser tube, forcing it up and out of the tank.

Next, scoop or slowly pour the resin into the funnel, allowing it to fall down inside the resin tank around the riser tube. (See Fig. 2)



**Figure 2**

When you have installed all of the resin into the resin tank, the tank will be pproximately 1 /2 to 3 /4 full of resin.

**NEXT.... BE SURE To REMOVE THE PLASTIC PLUG OR TAPE, FROM THE TOP OF THE RISER TUBE, BEFORE INSTALLING THE 5600 VALVE ON TOP OF THE RESIN TANK!!**

Brush any loose resin off the top opening of the tank, and apply a light coat of regular cooking vegetable/olive oil to the top surface of the resin tank with your finger. This will help lubricate the large “O” ring on the bottom of the valve.

(See Fig. 3)



**Figure 3**

***DO NOT use any oils or grease that are petroleum based!***

Also, DO NOT apply anything to the threads of the Fleck valve or to the inside of the Resin tank threads!

Once all the Resin is inside the Resin tank, fill it water until it is about 3 – 4” from the top opening of the tank. This will make it so there is very little air left in the tank that will be forced out into your home plumbing lines, when you put the unit into service position.

Included with our Fleck Softener valve will be a Top Distributor Basket. This Top Basket helps to insure that the resin remains in the tank during backwash, when the unit is subjected to higher than normal water pressures, (80-100 psi), which are present in a few areas of the US. (See Fig. 4)



**Figure 4**

The basket looks similar to the one at the bottom of the distributor tube that you installed in the tank earlier. This basket has small tabs on the larger end, which will allow it to connect onto the bottom of the Fleck control valve.

Simply attach to the bottom of the valve by aligning the small tabs on the basket with the slots on the bottom of the Fleck valve and then twisting it a bit, to secure it there.

Inside the bottom of the control valve, you will also see a 1” opening with a couple of “O” rings inside. When positioning the control valve over on top of the resin tank, make sure the top of the riser tube inserts through this opening in the bottom of the valve.

Have someone hold the resin tank, as you slowly turn the control valve in a clockwise direction into the top opening of the tank. As the control valve screws into the opening of the resin tank, it will soon stop turning as it finally makes contact with the top of the tank opening.

**\*\*\* IMPORTANT\*\*\***

Once the control valve makes contact with the top opening of the tank, make a small “Witness Mark” with something like a piece of chalk, somewhere on the bottom edge of the control valve and the top of the tank.

**You need to then tighten the control valve at least another 90 degrees further ...but no more than 180 degrees past this mark.**

**Be sure to grasp the body of the valve..... Not the control head, as you tighten it onto the tank.**

## **Fleck Yoke & Bypass Installation Guide For the 5600 Control Valve**

Turn off the main water shutoff valve.

Next, open all plumbing fixtures in the house including all outside faucets in order to drain the lines of all water possible.

Cut and remove a section of the main incoming water line near where the system is to be installed. Allow this line to drain thoroughly. On well applications, this cut will be made in the plumbing line located immediately after the well pressure tank.

Remove the yoke or bypass valve from the back of the Fleck valve by loosening the two small stainless steel clamps on either side of the valve assembly, which holds it in place. Next, simply pull it off the back of the valve body.

Now that you have the yoke or bypass valve removed, follow the directions below to make them ready to install on the valve.

### **Instructions for installing a Noryl Yoke, a Stainless Steel Yoke, or a Stainless Steel Bypass Valve**

**If you have a Noryl Yoke**, it will have two 3/4" or .....1" male thread nipples on the yoke. You will need to buy two 3/4" or .....1" Female thread adapters to whatever type and size of piping you are plumbing the system to.

**If you have a Stainless Steel Yoke**, it will have two 3/4" or .....1" Female thread openings in the yoke, (one inlet & one outlet). You will need to buy two 3/4" or .....1" Male thread adapters, to whatever type and size of piping you are plumbing the system to.

**If you have a Stainless Steel Bypass Valve**, it will have two 3/4" or .....1" Female thread openings in the yoke, (one inlet & one outlet). You will need to buy two 3/4" or .....1" Male thread adapters, to whatever type and size of piping you are plumbing the system to.



If you are using copper adapters to connect to any of these connections, we strongly recommend that you first solder a 3” piece of copper pipe into each of the two copper pipe adapters, away from the yoke or bypass valve, **and let the adapters cool off completely before connecting them to the yoke or bypass valve.**

See Figures 5 & 6 below



Figure 5



Figure 6

&

After the adapters have cooled off, apply a high quality, plumber’s pipe joint compound to both the threads of the yoke, bypass and/or plumbing adapters.

(See Fig. 7)



Figure 7

**We do not recommend using Teflon Tape on these coarse Yoke or Bypass thread connections....**

We strongly recommend securing the yoke or bypass valve, in a vise or other secure means, so the plumbing adapters can be properly tightened & secured onto the Yoke or Bypass valve.

**Remember to complete this step before you re-attach the yoke or bypass valve onto the Fleck valve/meter body assembly.**

WE DO NOT recommend connecting plumbing adapters to either the yoke or bypass valve, while the yoke or bypass valve is connected to the Fleck Valve assembly! You may exert too much pressure on the valve while securing the adapters, causing damage to the valve body!

After all soldering is finished and the adapters are cooled off and securely threaded onto either the yoke or the bypass valve assembly, then attach the yoke or bypass valve back onto the valve assembly and secure it with the two small stainless steel clamps.

**Do not over tighten the small Screws onto the Stainless Steel Clamps. Once the screw heads contact the SS Clips, the screw is tight enough.**

Now position your conditioning system in place for the final water line installation.

Remember; if you are using the Fleck bypass valve, make certain the bypass valve is set in the “Service” position, while soldering the pipes connecting the unit to the house plumbing.

Return the Bypass valve to the “Bypass” position before turning your water back on to the house.

Measure and cut the lengths of plumbing pipe you need, to plumb the main hard water line into your system. Then do the same for the conditioned water line that will exit from the system, back out into the house.

**NOTE:** As you look directly into the two holes on the back of the Fleck valve, the hard water line will always enter the hole on the LEFT SIDE of the yoke or bypass valve assembly. The valve body also has an arrow stamped into each side, showing the direction of flow.

If you use the Fleck bypass valve, arrows indicating water flow direction are also printed on the top of the bypass valve assembly.

## 5600 Brine (Salt) Tank & Line Installation

Locate the 4' piece of white 3/8" diameter brine line tube located inside the brine tank. Next, as you stand in front of the 5600 valve...locate the Brine injector nut located on the lower, left hand side of the valve body.

Remove this nut, and it should have a white plastic compression ring inside the nut. (See Fig 8)



Figure 8

Slide the Brine Injector Nut over the end of the brine tube first, with the threads facing the end of the tube. Then slide the white compression ring on the tube with the tapered end of the ring towards the end of the tubing.

Insert the end of the tube fully into the opening on the Fleck valve where the Brine Injector Nut was located, and then slide the compression ring and nut up the tube, threading the nut back onto the threads. **Tighten the nut snugly, with a small wrench.**

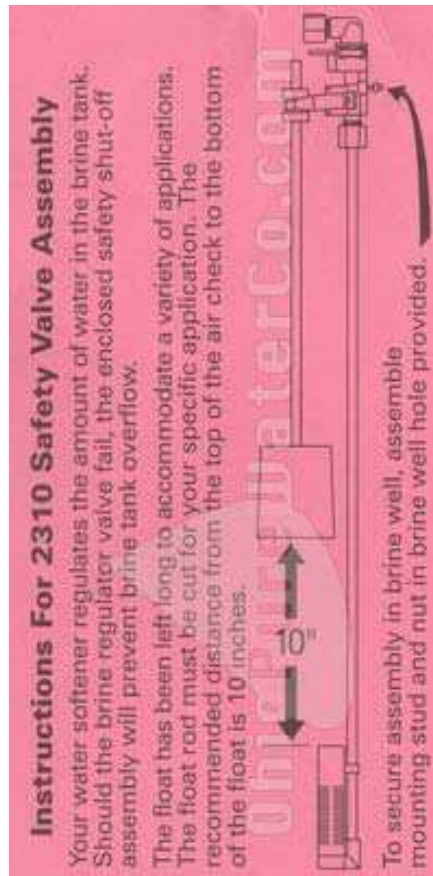
Next, look inside your brine tank and you will see a 4" diameter "Brine Well" tube. Remove the 4" plastic lid off the top of the brine well and look inside this tube. Here you will find the "Fleck 2310 Brine Safety Float Assembly".

The brine float assembly is a safety devise that works similar to a toilet tank float, shutting the water off inside the brine tank should the level of water get too high.

The slotted “Air Check” located at the bottom of the Safety Float Assembly, simply keeps the valve from sucking air into the unit, when the water level inside the brine tank gets close to the bottom of the brine tank....

Remove the brine float assembly from the brine well tube and check the distance from the top of the slotted Air Check, to the bottom of the float assembly.

This distance should be about 9 - 10 inches. (See Fig 9)



**Figure 9**

You will also have to cut a short section of the plastic float rod off, about ¼”, over the top black rubber washer, that helps keep the float in place.

After cutting the float rod to the proper length, adjust the two black rubber washers so they will be about 1/2" apart, so they are not pinching the float lever, at the top of the float assembly. (See Fig. 10)



**Figure 10**

Next, starting at the slotted Air Check located at the bottom of the Safety Float assembly; follow the gray, plastic shaft, attached to the back of the Air Check, up until you come to a Black Plastic Nut....

**Tighten this Black Nut as tight as you can with your hand, then tighten it another quarter to half turn more, with a wrench ...!**

(See Fig. 11)



**Figure 11**

Replace the brine float assembly inside the brine well tube. Attach the float assembly to the brine well tube with the small threaded screw and nut, which is located about 2” down from the top of the brine float assembly. Remove this small black nut and then put the brine float back into the brine well.

Notice there may be a couple of small holes drilled in the brine well tube, which you can insert this screw through. Simply choose the drilled hole that will permit the brine line tubing coming from the Fleck valve that will line up best with the elbow on top of the Brine Safety Float Assembly. Hold the brine float with the section of screw in the hole as you put the small black nut back on the screw.

On top of the 2310 brine float assembly, you will see a larger black elbow with a black plastic nut. Carefully remove the black nut and you will find two small compression rings inside the nut, one black and one white. These small pieces help seal the end of the brine tube that connects the brine tank with the Fleck valve.

Next, insert one end of the tubing through the hole in the side of the brine tank and brine well, and then slide the large black nut onto the tube, with the threads facing the end of the tube. Then slide the Black compression ring on the tube with the tapered end of the ring towards the inside of the nut. Next, slide the white compression ring onto the tubing with the small end of the ring towards the end of the tubing making sure the larger, flat edges of both compression rings are together. (See Fig. 12)



**Figure 12**

Now insert the end of the tube into the black float assembly elbow as far as it will go. Hold it there as you thread the black nut onto the elbow.

**Tighten this Black Nut as tight as you can with your hand, then tighten it another quarter to half turn more, with a wrench ...!**

## Filling the Brine Tank

**Before adding any salt to the brine tank**, first add some water to the brine tank, until the water is about 2" above the white salt grid in the bottom of the brine tank.

After adding the water to your brine tank...then add a 3-4 bags of "Solar Salt" or "Potassium Chloride". Make sure the brine tank is at least half full of salt.

**It doesn't matter what type salt you decide to use in your softener**...as long as it is made for use in a water softener...and it is labeled on the bag, that it is at least 99.5% Pure Salt.

Your brine tank is now finished and ready for use!

Notice the plastic elbow that is located on the side of your brine tank. This is a "Safety Overflow Gravity Drain", and will use the same size drain line that is used on the valve drain (1/2" ID flexible plastic line). (See Figure 13)



Figure 13

Any water that might come out of this drain, is not be under pressure, so it must be directed to a house drain that is physically lower, so it will drain any excess water by gravity. **NEVER connect the 1 /2" ID drain line coming from the Fleck valve...to the brine tank safety overflow!**

**Each drain line must run separately to your house drain.**

## Installing the Drain Line on the Fleck 5600 Valve

The 5600 Fleck valve has a drain hose barb, located on the back, right side of the valve, which is screwed into a Drain Line Flow Control Housing.

(See Page # 6 ...part # 52 of the 5600 Service Manual)... (See Fig. 14)



Figure 14

First, check to make certain this drain hose barb is securely threaded into the Drain Line Flow Control Housing, and that the threads have been sealed with Teflon tape.

Once the drain hose barb is installed properly into the Drain Line Flow Control Housing, carefully push the ½" ID plastic drain hose completely over the barbed end of the fitting, and then attach a small hose clamp so the line cannot work loose over time.

**Run the opposite end of this drain line, to the drain in your home plumbing system.**

Remember to leave a small air gap at the end of the hose going to the house drain. (Follow local plumbing codes), and **secure it there, as this line will have water pressure on it, and the end of it may come out of your drain,**

(To make an "Air Gap" at the end of the drain line, basically means that you don't let the end of the drain line touch any standing water that is in the drain. Simply leave a small air gap space between the end of the drain line and any water standing in the drain you are using.)



## **Turning the Water Back On to Your Home** **INSTRUCTIONS FOR USING A FLECK YOKE.**

If you are using the Noryl or Stainless Steel yoke with no bypass, turn all faucets in the house to the off position, except one faucet, (preferably an outside faucet, a laundry sink or bathtub).

Next, turn your water back on slowly, letting this one faucet run open for several minutes, allowing the water to rinse the inside of your new resin tank out and settle the resin.

Sometimes you may experience some light color rinsing off the new resin... This is normal...and should only last a short time. This is why we suggest running the water through one faucet initially, to clear the softener of this colored water and any small particles.

After a few minutes, when the water is running clear...turn the faucet off and start opening each faucet in the house one by one until all the air is out of the water lines.

You now have conditioned water on your cold side! The hot water will take a couple of days to be conditioned, as your water heater is full of raw untreated water.

## **INSTRUCTIONS FOR USING A FLECK BYPASS VALVE.**

**If you are using a bypass valve, make sure your new bypass valve is in the “BYPASS” position.**

Turn your water back on slowly, leaving all your faucets in the house open until water starts coming out of them. After they are all running steady and the air has been expelled out of the water lines, turn them all off one by one. The raw water will be bypassing your new conditioner system at this time.

Next, open one cold-water faucet about half way open, (preferably an outside faucet, a laundry sink or bathtub with no aerator). Leave this faucet on with water running out of it until you have the new unit turned completely to the “Service” position.

With the one cold water faucet running half open...Slowly open your bypass valve slowly from bypass position, to full service position. Your water will now be running through the new conditioner unit, and out of the one cold-water faucet you left running open half way.

Sometimes you may experience some color rinsing off the new resin... This is normal...and should only last a couple of minutes.

(This is why we suggest running the water through only one faucet, to clear the new unit of this colored water and any small particles from the new resin bed.)

**Once the water is running clear.....turn the faucet off.**

Your plumbing system will now pressurize as all faucets are closed. You now have conditioned water on your cold-water side throughout the house.

It will take a couple of days for the hot water heater to become filled with conditioned water.

### **5600SXT Fleck Metered Valve Post Installation (Setting the Meter & Time of Day)**

**Please go to this link on our website for “SXT” programming instructions**

**<http://www.ohiopurewaterco.com/shop/customer/home.php?cat=740>**

**<<<< [It is not necessary to regenerate your new water softener](#) >>>>**

**The softening resin is new, and will soften your water as soon as the unit is installed.**

Check all connections for leaks. The installation is now complete and you now have filtered water!

## **Final Notes**

Remember...Even though you now have conditioned water in your cold water lines, your water heater is still full of raw water. Through normal water use, this raw water will be replaced with conditioned water in about 2 to 3 days.

**We supply a toll free number (888-644-6426), to all of our customers to use, in case they don't understand something contained in our installation instructions.**

Please give us a call if you are not sure about anything to do with your new unit!  
We are glad to help you get the unit installed right and operating properly!

Be sure to follow your local plumbing, building and safety codes when installing any of our systems.

Also, email us a picture of your installed system!! Let us see how good of a job you did on the installation.

Thanks again, to have the opportunity for your business!!